The Effects of Home Country Institutions and the Sarbanes-Oxley Act on Underpricing of Foreign IPOs in the US

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Abstract

Using a unique dataset, I investigate the effects of the home country institutions on underpricing of foreign IPOs in the US, and whether underpricing is significantly different post enactment of the Sarbanes-Oxley Act (SOX). Findings indicate differences in underpricing based on IPOs home country institutions. Additionally, I find no evidence that SOX has affected underpricing when home institutions are considered. In terms of accounting practices, I find that conservative reporting reduces underpricing levels. In addition, auditors' prestige significantly reduces the underpricing following SOX. The findings shed light on the differences between cross-listed firms and suggest that while foreign IPOs may abandon their home capital markets by listing in the US, their cost of capital are nonetheless influenced by home country institutions. Collectively, these results contribute to the ongoing discussion regarding the effectiveness of SOX in reducing the cost of capital and the loss of competitiveness of US capital markets.

Key Words: Foreign IPOs, Institutional Differences, SOX, Underpricing, Accounting Conservatism.

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1. Introduction

Information asymmetry problems and their effects on market participants have been at the centre of attention of legislating bodies over the last few decades (Healy and Palepu, 2001; Connelly et al., 2011). The increase in the number of foreign companies seeking new capital in the US has promoted interest in studying the specific characteristics of these companies (Bruner et al., 1999, 2004; Doidge et al., 2009). Heterogeneity in ownership patterns, private benefits of control, institutional environments, media coverage and enforcement mechanisms were proposed as explanations as to why information asymmetry problems differ between US and foreign firms listed in US capital markets (Frost and Pownall, 1994; Doidge et al., 2009; Bruner et al., 1999, 2004; and Bell et al., 2012).

In the context of initial public offerings (IPOs), information asymmetry problems have been suggested as the primary determinant of the level of underpricing (Ritter and Welch, 2002). In a cross-country setting, Hopp and Dreher (2013) document a significant relation between country-specific legal and institutional factors and levels of underpricing. They attribute these findings largely to accounting transparency that influences the flow and understanding of information, and to legal and institutional environments that affects the effectiveness of firm level corporate governance mechanisms. As for foreign IPOs in the US, Bruner et al. (2004) find that, on a univariate basis, domestic firms experience a lower level of underpricing than foreign firms in the US during the period 1991-1999. They attribute their findings to the observation that foreign firms are "larger in terms of assets and issue size relative to IPO issuers in their home markets" (pp. 39-40). They also argue that this evidence is consistent with Kim and Stulz (1988) and Marr et al. (1991) who assert that foreign IPOs in the US are of higher quality relative to their peers at home.

The introduction of the Sarbanes-Oxley Act (SOX) in 2002 aimed to reduce cost of capital by attempting to mitigate information asymmetry problems by improving the

information environment in US capital markets. This was carried out by employing improved accounting and corporate governance mechanisms (Jain and Rezaee, 2006). For example, section 401 of the Act requires that all off-balance sheet transactions, obligations and other relevant information must be disclosed in the quarterly and annual reports. Furthermore, section 302(a) and its amendments in section 404 of the Act requires the chief executive officer as well as the chief financial officer of the reporting firm to certify each quarterly and annual reports. The executives certify and ascertain the veracity of the reports. As a result, management's involvement, responsibilities and legal liabilities have significantly increased.

The effects of SOX on information asymmetry problems have been extensively researched in recent years. This notwithstanding, not much is yet known with regard to the specific case of foreign issuers. The extent of the effect of SOX on foreign IPOs is a-priori unclear because these firms have been formed and developed outside the US and therefore predominantly they exist in very different institutional environments to the US.

This study investigates the effect of SOX on information asymmetry problems of foreign IPOs in the US with reference to changes in underpricing levels. The rationale for using these changes as a proxy for information asymmetry problems is as follows. First, underpricing is expected to decrease as information asymmetry among investors becomes less severe (Michaely and Shaw, 1994; Rock, 1986). Second, to the extent that SOX has been successful in improving the reporting quality of foreign IPOs and consequently reducing the information asymmetry between IPO firms and investors. I expect this to lead to a reduction in underpricing (Michaely and Shaw, 1995; Johnston and Madura, 2009). Underpricing is also related to the ability of investors to resolve disputes with managers and the extent to which managers are held accountable (Drake and Vetsuypens, 1993). This is a function of the legal remedies available to investors and the protection they can expect from regulatory and enforcement bodies such as the Securities and Exchange Commission (SEC). In the context of

foreign IPOs, even though they commit to US institutions, this ability may still be a function of home institutions if not all disputes are resolved in accordance with US rules and/or enforcement of foreign firms is weak. As I argue below, SOX may have reduced the effect of home legal institutions by setting tougher reporting and corporate governance requirements. Because institutions differ in their strengths across countries, any cross-country differential effect of SOX on underpricing of foreign IPOs may be a function of differences in the strength of home institutions.

For my empirical investigation, I construct a dataset consisting of 320 foreign IPOs in the US during the years 1990-2009. I compare the effect of SOX on underpricing while controlling for a number of factors previously indentified in the literature as determinants of underpricing. In addition, I examine the effect of the institutional environments of the country of origin on underpricing by using two measures of the quality and strength of legal and enforcement factors in the home country. Based on these, I identify foreign IPO firms in the sample that come from strong or weak home institutions. I subsequently examine whether underpricing varies between strong and weak home institutions, again controlling for known influencing factors.

The empirical findings indicate a lower level of underpricing in the case of firms coming from strong institutional environments as opposed to those classified as weak. I find no evidence for a significant impact of SOX on underpricing of foreign IPOs as a whole and in a similar vein, with respected to the country of origin of the IPO in question. However, I find that in the post-SOX period the negative relation between auditors' prestige and underpricing levels has increased in magnitude relative to the pre-SOX period. When controlling for accounting conservatism, I find that accounting conservatism is negatively related to underpricing in firms that are coming from strong institutional environments. This corresponds with findings by Aerts and Cheng (2012) that find that accounting conservatism

helps to reduce information asymmetry and as such is negatively associated with underpricing.

In addition to underpricing, I use an alternative measure of initial performance commonly referred to as investors' premium (Certo et al., 2003; Welbourne and Andrews, 1996; Aerts and Cheng, 2102; and Lester et al. 2005). This measure is independent of the net book value since it is calculated by the offer price minus the net book value per share deflated by the offer price. Findings indicate that firms that come from strong institutional environments enjoy a higher premium from investors. However, the magnitude of this premium reduces with an increase in conservative reporting. Evidence also suggests a reduction in premium in the post-SOX period.

This paper makes the following contributions. First it adds to the existing body of literature on the effect of SOX on the reduction of agency problems, in particular relating to information asymmetry evidenced in the underpricing of foreign IPOs in the US. Second, it focuses specifically on the role played by the institutional differences at the country of origin before and after the enactment of SOX. Third, it sheds light on the differences in the role of the firm level governance mechanism and its evolution subsequent to the enactment of SOX with respect to underpricing. These findings have direct implication towards the ongoing debate about the competiveness of the US markets and the procedural costs associated with the Act and are of interest to both practitioners as well as policy makers.

The remainder of the paper is as follows: Section 2 discusses background information relevant to establish the main hypotheses for this paper. Section 3 presents the research design. Section 4 describes the sample selection process and data collection. Section 5 presents and discusses the empirical results and Section 6 contains the concluding remarks.

2. Literature review and hypothesis development

Underpricing is a well documented phenomenon and is commonly defined as the percentage difference between first day closing price and the IPO's offer price. It captures the magnitude of 'leaving money on the table' (Loughran and Ritter, 2002). The first evidence goes back to the early 70s of the last century with studies by Ibbotson (1975) and Logue (1973) that report significant underpricing in the US market. Ibbotson and Jaffe (1975) argue for a cyclical nature of the level of underpricing. In later years, research shows an apparent increase in the US underpricing levels throughout the years, from an average of 7.4% in 1980s to 65% in the late 1990s (Loughran and Ritter, 2004). A more recent study by Engelen and Van Essen (2010) documents an average of 21.14% underpricing in the US during 2000-2005. However, underpricing is not a US- specific phenomenon. Levis (1993) and Jenkinson (1990) report consistent underpricing in the UK market, Dawson (1987) document significant levels of underpricing in Hong-Kong, Singapore and Malaysia. Other studies also document high levels of underpricing in China (Mok and Hui, 1998; Kimbro, 2005).

Generally, in alignment with shareholders interest, management aims at maximizing the proceeds from the IPO process will try to minimize underpricing. Thus, an understanding of the motivation to leave money on the table is needed to rationalize this documented global phenomenon. First, a positive relation between underpricing and after-issue trading volume suggests that underpricing attracts investors' attention and therefore promotes the issuing firm (Welch, 1992; Demers and Lewellen, 2003). Second, several authors argue that underpricing protects management from legal liabilities and accusations originating from investors' allegations of deceptive information in the listing documentation (Hughes and Thakor, 1992; Tinic, 1988). Third, other studies argue that underpricing assures a completion of sale of the underwriters' stocks and thus maximizing remuneration (Gordon and Jin, 1993). Fourth, one of the main motives for underpricing is commonly identified as asymmetric information

among management and investors. Ritter and Welch (2002) suggest that when investors are less informed than the issuers, managers are encouraged to 'leave money on the table' in order to compensate uninformed investors for possible losses owing to information asymmetry; also known as the 'lemons problem' (Akerlof, 1970; Michaely and Shaw, 1994). In other words, IPOs are often subject to a high degree of private information, and thus, informed investors bid only on profitable issuers while uninformed investors have no comparative advantage when buying a stock of a new issuer. Moreover, these authors propose two scenarios for the case in which investors are more informed relative to the issuers about the market demand. In the first, investors are equally informed and therefore buy only when price is below the real value. In the second and more realistic scenario, investors are not equally informed. Hence, the less informed investors are allocated both, high and low quality stocks. In contrast, informed investors are in a position to select the high quality stocks which are not overpriced. Thus, in order to mitigate the winner's curse, where the winner of the auction pays an overvalued price for the stocks (Thaler, 1988) and therefore to ensure that the uninformed investors break even on low quality stocks, all stocks are expected to be underpriced (Rock 1986; Levis, 1990). In fact, this reasoning is similar to that presented in the case of issuers that are more informed than investors but in this instance the information asymmetry is between two types of investors. This rationale can be identified with a specific information asymmetry problem, namely, the adverse selection problem.

To date, most of the literature on underpricing focuses on firm-specific and issue-specific characteristics and mostly neglects country-specific characteristics (Engelen and van Essen, 2010). However, the institutional environments in which firms form and operate affect the compliance and enforcement of law, and are therefore directly linked to the effectiveness of business practices. Engelen and van Essen (2010) find that a country's legal framework and level of enforcement reduce the extent of underpricing. They argue that, in line with

asymmetric information models on underpricing, the legal framework influences the *ex ante* uncertainty with respect to post listing strategies and managerial decisions. This increases the uncertainty regarding the IPO valuation, which in turn, leads to higher underpricing levels. In addition, there is a higher uncertainty regarding investors' returns, and consequently regarding firms' cost of capital, in countries with weaker legal protection. This is attributed to the greater range of opportunities available for management and controlling shareholders to transfer assets out of the firm at the minority shareholders' expense. Literature on cross-listed firms suggests that in order to reduce the negative effects associated with their cost of capital, firms from countries with weak legal institutions list in overseas markets with stronger legal institutions, typically the US market. By doing so, they effectively "bond" to the host country's legal institutions and increase their liability with respect to minority shareholders' interests (Coffee 1999; Stulz, 1999). In the extreme case, cross-listing may even eliminate the relevance of their home country institutions. However, other studies argue that the regulations and enforcement mechanisms with regard to foreign firms in the US are of limited effectiveness. For example, Siegle (2005) argues that the SEC does not scrutinize foreign registrants. He also finds that the effectiveness of private litigation of foreign firms is constrained. Licht (2000 and 2003) finds evidence for weaker remedies for disputes involving shareholders of foreign firms than those of domestic US firms. In this paper, I study the potential impact of home country institutions on underpricing in the context of foreign IPOs in the US.

With regard to US markets, information asymmetry problems and their effects on market participants have been at the centre of attention of legislative organizations over the last few decades. Through the enactment of SOX in 2002, US regulators aim at increasing investor confidence in the US capital markets by reducing information asymmetry (Coates, 2007). This was to be accomplished through the implementation of stricter requirements,

mostly auditing and reporting related, as well as new corporate governance mechanisms. For example, section 302 of the Act requires management certifications on quarterly and annual reports. Also, section 401 enhances off-balance sheet and pro-forma disclosures. In addition, section 204 sets the required audit committee standards aiming at strengthening the independence and responsibilities of the audit committee. The main mandates of the Act are therefore to increase auditing quality and independence, and at the same time to enhance management legal liabilities with respect to financial reporting and conducts.

As the introduction of the Act imposed substantial additional costs to both publically listed firms (Carney, 2006) and companies in the process of going public (Johnston and Madura, 2009), there has been an ongoing debate with regards to its effectiveness in recent years. In fact, evidence on the effect of SOX is controversial (Litvak, 2007; Coates, 2007; DeFond et al., 2005). One of the suggested impacts of the Act is a reduction in information asymmetry and its effects on the initial returns of new issuers in the US markets. Bruner et al. (2004) find that underpricing is positively related to information asymmetry and risk. Moreover, prior literature identifies two different occurrences of information asymmetry in the IPO process. Namely, information asymmetry can arise between the underwriters and issuers (Baron, 1982; Loughran and Ritter, 2002) and management and investors (Welch, 1989; Benveniste and Spindt, 1989). In the latter case, information asymmetry problems can arise even in the early stages of an IPO i.e., the book-building process. Kaserer et al. (2008) conduct an empirical investigation into the effect of the SOX on underpricing of domestic IPOs in the US between 1990-2007. They find that in the post-SOX period, underpricing has decreased by about 5% with respect to the pre-SOX period. They argue that most of the decrease can be explained by the reduction in the offer price adjustment that is taking place in the book-building process. Thus, the authors regard the decrease in underpricing as a direct evidence for reduction in information asymmetry in the post-SOX period. In addition,

Johnston and Madura (2009) postulate that SOX affects the transparency of companies in the process of going public and therefore should have an impact on underpricing of IPOs. Thus, underpricing is assumed to be positively correlated to the level of asymmetric information.

The debate on the effectiveness of SOX has attracted a great deal of attention in literature additionally being of interest to practitioners, policy-makers and regulators ever since its enactment. Some even argue that the substantial costs outweigh the benefits (Ribstein, 2002; Romano, 2005). This fact, together with the growing concern of a decline in the competitiveness of the US capital markets as a result of SOX, make the focus on the effects of the Act on asymmetric information problems and issues like underpricing of foreign IPOs very motivating and important for all parties involved. Therefore, the objective of this paper is to determine the effect of SOX on information asymmetry of foreign IPOs in the US using underpricing as a proxy. For that aim, a comparison of the level of underpricing for foreign IPOs in the US before and after the introduction of SOX is conducted.

The first hypothesis is that foreign IPOs from strong legal institutions at their country of origin experience less underpricing relative to those who come from weak home legal institutions. The second hypothesis of this paper is that SOX has reduced the level of asymmetric information between the issuer and investors not only for domestic US companies as shown in prior research, but for foreign IPOs by affecting their specific characteristics. Consequently, the level of underpricing is expected to be lower in the post-SOX period than in the pre-SOX. The third hypothesis focuses both on the country of origin of the issuers and SOX. It suggests a reduction in underpricing following SOX for IPOs from both strong and weak home legal institutions, with a greater magnitude for the latter set of firms. However, there is no clear expected direction for this effect.

3. Research Design

Underpricing is a commonly incorporated proxy for information asymmetry and commonly measured by the first day return on initial public offerings i.e. the percentage difference between the offer price and closing stock price at the first day of trading (Loughran and Ritter, 2002). Greater underpricing implies more money 'left on the table' by management. In the context of institutional underpricing is argued to compensate for information asymmetries and risk. However, the level of underpricing may be affected by a variety of factors in relation to offering firm, industry affiliation and market characteristics. In additional, this paper tests for a temporal trend possibly attributed to structural changes in the information environment after SOX (Ritter, 2011).

The next step is to study how differences between institutional environments in the country of firm origin are shown by the extent of underpricing and whether this relation had changed as a result of the structural adjustments resulting from SOX. To that end, I employ two measurements which utilise widely recognised indices quantifying the rule of law, minority investor's protection, and capital market characteristics at the home country level.

The first measurement follows Bruno and Claessens (2007) and Durnev and Kim (2005) by constructing an index for the product the La Porta et al.'s (1998) index of anti-director rights, as adjusted by Spamann (2010)[1] and the International Country Risk Guide (ICRG) Law and Order index. The Anti-Director index covers only aspects of *de-jure* regulation by capturing six sub-indices indicating "the possibility of voting by mail and of depositing shares, aspects if cumulative voting, oppressed minority, pre-emptive rights and the percentage of share capital to call a meeting" (Bruno and Claessens, 2007, p. 15). On the other hand, the Law and Order index assesses the *de-facto* law and order traditions of a country as well as the legal system. I match the country-year specific scores with the year of

[1] Spamman (2010) shows that his revised index markedly differs from both La Porta et al.'s (1998) original index, as well as its later revision that is provided in Djankov et al. (2008).

the IPO. Thus, taken together, the first measurement for institutional environment used in this paper combines both *de-jure* and *de-facto* aspects of investors protections (Durnev and Kim, 2005; and Bruno and Claessens, 2007). Consistent with earlier studies, the sample is subsequently divided into above (below) the median groups and thus high (low) minority investor protection (Leuz et al. 2010 and Pinkowitz et al. 2006).

To test whether there is a difference in underpricing levels between firms from different institutional environment before and after SOX, I start by estimating the following regression model:

$$\begin{aligned} UP_i = \alpha + \beta_1 INST_i + \beta_2 SOX_i + \beta_3 AUD_i + \beta_4 UW_i + \beta_5 HOT_i + \\ \beta_6 INSIDER_i + \beta_7 AGE_i + \beta_8 HITECH_i + \beta_9 SIZE_i + \\ \beta_{10} ASSETS_i + \beta_{11} SALES_i + \beta_{12} LEV_i + \beta_{13} BUBBLE_i + \varepsilon_i \end{aligned} \quad (1)$$

Where UP_i is a measure of underpricing level defined as the percentage difference between the offer price and closing stock price at the first day of trading. The variable $INST_i$ indicates the institutional setting of the home country. SOX_i serves as an indicator to pre-(post-) SOX listing and thus captures the effect of the Act. AUD_i indicates the prestige of the auditors. Evidently, high quality auditors are associated with lower risk IPOs. Johnston and Madura (2009) argue that the high prestige auditor certification lowers IPOs' initial returns. UW_i ranks the offering's leading underwriter's prestige, as per Jay Ritter's website. Underwriter prestige has been documented to have a positive impact on reducing information asymmetry in IPOs and even more specifically on underpricing (Balvers et al., 1988). The rationale behind this is that managers are willing to leave 'money on the table' in order to attract a prestigious underwriter with a highly influential analyst. This assures additional compensation for the underwriter in additional to the fixed fees as well as serving as an insurance instrument for underwriters against asymmetric information (Beatty and Welch, 1996). In contrast, Ritter (2011) argues that the stronger the underwriter, the more the

likelihood of them having an increased control over the level of the offer price. This compounded with the incentives to capture higher percentages of the "money left on the table" would lead to increased levels of underpricing. HOT_i controls for potential autocorrelation between IPOs returns taking place in specific periods in which markets look favourably on IPOs. Typically, firms are more likely to list their shares during such periods due to a momentum of relative ease in placing shares (Johnston and Madura, 2009; and Bradley and Jordan, 2002). $INSIDER_i$ measures the ratio of primary shares retained by insiders over all shares outstanding after offer (Kaserer et al., 2011; Johnston and Madura, 2009). Inside ownership has been found to be positively correlated with underpricing. Thus, management will be more willing to leave money on the table in the IPO process as its retained shares increases. This is explained by the lockup period that suggest that benefits from underpricing such as media coverage can yield higher price at the end of the lockup periods and therefore in alignment with the interests of the firms insiders (Aggarwal et al, 2002). AGE_i this variable controls for the number of days between the issuing and the firm establishment dates (Daily et al., 2005). The age of the firm is expected to increase the amount (and perhaps the quality) of information available to market participants thus reducing mitigating their risk arising out of any uncertainty associated with the issue (Johnston and Madura, 2009). $HITECH_i$ is an indicator for a high-tech industry membership. This is due to the fact that this industry is characterized by high information asymmetry (Barth et al., 2001) and may also be particularly exposed to litigations risk (Johnson et al., 2001). $PROCEEDS_i$ indicates the gross proceeds on the issue. Michaely and Shaw (1994) argue for a positive relationship between offering size and market scrutiny. Also, a large offering is expected to initiate a higher demand on the initial day of the offering. $ASSETS_i$ controls for the firm's size and is defined as the logarithm of assets at the end of the fiscal year preceding the issuing (Loughran and Ritter, 2004). $SALES_i$ defined as the log of sales at the end of the fiscal year

preceding the issuing. It is commonly used as a measure of risk compositing (Loughran and Ritter, 2004). LEV_i is measured by total debt over total assets at the end of the fiscal year preceding the issuing. Leverage serves as a monitoring role. It has been documented to have negative relation between leverage and underpricing (Jensen, 1986; Leone et al., 2007). $BUBBLE_i$ controls for the abnormal returns documented during the internet bubble period (Ritter, 2011). A more detailed description of these variables is presented in Appendix A.

In the regression model 1, the coefficient on *INST* captures the incremental effect of the strength of home institutions on the intercept. For example, a positive sign implies that new issuers coming from strong institutional environments experience higher underpricing relative to IPOs from countries with weak institutions. However, if by listing in the US firms circumvent the influence of their home institutions regardless of their strength, the coefficient on *INST* is expected to be statistically insignificant. In addition, in regression model 1, a positive (negative) statistically significant coefficient on any of the vector variables implies a positive (negative) relation to underpricing.

One limitation of model 1 is that it assumes that all coefficients apart from *INST* are assumed to be the same for foreign IPOs from both weak and strong legal environments. However, these issuers may be different according to their country of origin. In such cases, the restriction may not be economically justified. Thus, in order to test for differences between first time issues with respect to their institutional environment at the country of origin, I run model 1 separately for the two subsamples and report the differences in the coefficients using interactions of *INST* with all of the vector variables. To the extent that underpricing is not affected by the IPOs home environment when listing in the US, the results for the two subsamples should not differ.

Finally, to test for the effects of SOX on underpricing, I run model 1 separately for the pre- and post- SOX subsamples and report the differences in the coefficients using

interactions of *SOX* with all of the explanatory variables. To the extent SOX has no impact on underpricing in the case of foreign IPOs listing in the US, the results for the two subsamples should not differ.

4. Data, Sample Selection

The sample selection process starts by identifying companies that were first time issuers to the US markets between 1991 and 2009. Only firms with no prior listing in any market within or outside of the US are included in this sample.

There are numerous challenges in the suggested sample selection process. First, all foreign firms that made their initial public offering to the US between 1993 and 2009 are to be identified. According to the Security Data Corporation (SDC) New Issues database classification, foreign firms are firms that were incorporated and whose primary executive offices are located outside of the US.

Second, within the identified sample some firms which do not correspond to the conceptual framework are to be identified and excluded from final sample. Consistent with Bruner et al. (2006) the sample excludes equity listing that originated from spin-offs of publically-listed companies or from mergers and acquisitions. The sample selection eliminates any warrants, units and rights offerings. In addition, I exclude IPOs from financial institutions (4-digit SIC codes 6000-6999) and public utilities (4-digit SIC codes 4900-4949) due to the different structure of their financial statements and regulatory environment. Furthermore, firms that are based in that Bahamas, Cayman Islands, and Bermuda were also removed from the selected sample. This is owing to the fact that those are typically US or European firms within the financial services industry that are registered in these geographical locations for tax consideration and although they comply with the definition of foreign companies, they do not correspond to the conceptual framework of this research.

Third, IPO prospectuses are used to obtain accounting and corporate governance variables needed for the empirical investigation. The primary sources for the prospectuses are the Edgar database provided by the SEC and the Perfect Filing database. Fourth, I obtain issue data manually from prospectuses when non-U.S dollar figures are transformed to US dollar figures based on the exchange rates disclosed in prospectuses. Thereafter I index the US figures to 2005 US value based on the Consumer Price Index (CPI) as reported by the International Monetary Fund[2]. Fifth, I obtained data on the NASDAQ value weighted index from Bloomberg. Finally, I computed the first day return or underpricing by deducting the offer price collected from the prospectuses from the first CRSP-reported trading of the IPO stock closing price (Carter et al., 1998) where this is not larger than two days following the offering. I also match the figure reported by CRSP reported figure with that reported by SDC Platinum and when the two do not match these were crossed checked with other public sources to obtain the most accurate first day closing price.

As reported in Panel A of Table 1, the final IPO sample compromises of 320 listings. Panel B also presents the industry composition of the sample according to the Fama-French (FF) 12-industry classification. This Panel shows that the largest group of IPOs in the sample is in the Business Equipment industry (FF6), followed by the Telephone and Television Transmission (FF7), and Manufacturing (FF3).

Panel C of Table 1 reports the distributions of IPOs according the country of origin in a four year window from 1990-2009. Out of the overall sample, 215 are pre-SOX issues and 105 are Post-SOX as Panel B indicates Consistent with other studies on foreign issuers in the US, the largest number of IPOs is from China (61), followed by Israel (54) and UK (31). Most of the IPOs come from the years before 2001, reflecting the burst of internet and dot.com

[2] Retrieved from http://www.imf.org/external/data.htm#data on April 2011

bubble of 2001 and its effect on the high-tech sector which generates many IPOs (about 30% of the total sample).

[Insert Table 1 about here]

Table 2 reports the Pearson's' pair-wise correlation coefficients of the variables contained in model 1 as well as the ones used for the sensitivity analysis in subsection 5.3. There is no significant correlation between *UP* and *INST*, suggesting no effect of home institutions on underpricing in the univariate analysis. In contrast, *SOX*, *AGE* and *ASSETS* are negatively correlated with underpricing in this table. Finally, *HOT INSIDER* and *BUBBLE* are positively correlated with higher abnormal accruals. In the next section, I examine the effect of the above mentioned factors on underpricing with both with respect to home institutions and the enactment of SOX.

[Insert Table 2 about here]

5. Empirical Results and Discussion

The section presents the findings of empirical investigations following on from the methodology and theoretical formulations. The results are further sub-divided into the findings from the univariate analysis which used for indicative purposes, followed by the primary regression analysis with subsequent variations and interaction terms. Thereafter, the results conclude with additional analyses aimed at strengthening the primary findings.

5.1. Univariate Analysis

Table 3 presents summary statistics for the variables used in the empirical analysis. Panel A presents summary statistics for each variable in the pooled sample. As is evident from this panel, about 33.5% of the observations are post-SOX, insiders retain about 71.5% of the

shares, there are about 52.8% firm with High-Tech industry membership, and 23.4% of the IPOs took place during the internet bubble period. In addition, the sample is divided into two groups: underpricing (*UP*>0) and overpricing (*UP*<0) with 210 and 75 firms respectively. Furthermore, I indicate the results of univariate tests on the difference in means (*t-test*) and medians (*Wilcoxon rank-test*). Mean of *SOX* changes from 0.290 to 0.493 (significant at 0.10 level) suggesting that after SOX more IPOs are overpriced. Mean (Median) of *HOT* decreases from 0.03 (0.029) to 0.006 (0.01) when comparing between underpricing and overpricing (significant at 0.05 level)[3] indicating a positive relationship between market return in the month before the issuing and underpricing. The mean of *INSIDER* decreases from 0.724 to 0.693 (significant at 0.10 level) suggesting that offerings that leave less percentage of equity to insiders are more overpriced.

Panel B presents summary statistics for each of model variables in both the Pre- and Post SOX periods. I show the results of univariate tests on the difference in means (*t-test*) and medians (*Wilcoxon rank-test*). Mean (Median) *UP* significantly decreases from 0.238 (0.086) in the pre-SOX period to 0.139 (0.028) in the post-SOX period. Likewise, there are more IPOs coming from weak institutional environments after the enactment of SOX as evident from the significant decrease of the mean and median of *INST*. Also, there is a significant decline in the mean and median of AGE in the pre- and post- SOX periods.

Panel B also presents summary statistics for each of model variables in each of the strong and weak institutions subsamples. As before, I show the results of univariate tests on the difference in means (*t-test*) and medians (*Wilcoxon rank-test*). Mean (Median) of *SOX* show significant differences between Weak and Strong subsamples suggesting different allocation in issuing in the US between periods; when Weak is almost evenly allocated but Strong falls sharply after SOX. The mean of *INSIDER* decreases from 0.708 to 0.693 (significant at 0.10

[3] For the remaining of the study, significant refers to α=0.05 unless expressly stated.

level) suggesting that offerings associated with stronger institutions leave less percentage of equity to insiders and are more overpriced. In addition, IPOs from weak institutional environments seem to be longer in business and larger in size as indicated but the significant increase in mean for *AGE* and *ASSETS*, respectively. Furthermore, issues from stronger institutions are significantly larger in size as demonstrated by the higher mean and median of *PROCEEDS*. The next section reports and discusses the results obtained in the cross-sectional regression analysis.

[Insert Table 3 about here]

5.2. Regression Analysis

As stated in Section 3, a limitation of model 1 which uses only indicators for *INST* and *SOX* and assumes that all coefficients apart from *INST* are the same for foreign IPOs from both weak and strong legal environments which may not be the case if these populations are affected differently by some of the factors as the univariate analysis in substation 5.1 suggests. Thus, Table 4 presents the results for estimating model 1 separately for the two strong and weak institutions subsamples and reports the differences in the coefficients using interactions of *INST* with all of the vector variables (denoted as model (1.a) with the full model specifications presented in the notes of Table 4).

Table 4 is separated by two sections; the first two left hand side columns show the results for model 1 for strong and weak institutional environments respectively while the third column to the left reports the coefficients for the interactions model (1.a). Thus, the reported coefficients are the differences between the coefficients observed in the strong and weak subsamples except for *INST* which is the difference between the intercepts of the strong and weak home institutions regressions. The *INST* coefficient for the difference between the subsample is negative and significant. This indicates lower underpricing on average in IPOs

from stronger home institutions. *HOT* is positive and significant for the two subsamples with no evidence of a significant difference. This is in line with Loughran and Ritter (2002) who argue that the positive relation between underpricing and higher market return in the month preceding the IPO is due to an increase in the anticipated wealth by the issuers that lowers their incentives to bargain hard for an offer price increase. *AGE* has an opposite effect on underpricing between the two groups. There is an evidence for a higher underpricing for more mature firms from strong legal environment and a negative relation between *AGE* and underpricing for the IPOs coming from weaker environment. Also, the difference is positive and significant suggesting different considerations for the two types of firms, i.e. younger firms with more information asymmetry tend to underpricing more to compensate investors for their risk (Johnson and Madura, 2009; Daily et al. 2005) while with mature firms from strong legal institutions underpricing could have different motivations (press visibility) and mature firms can put more money on the table (Loughran and Ritter, 2002).

Findings from the examining of firm specific control variables show that the positive association between offer's size (*PROCEEDS*) and *UP* as well as the negative relation between firm size (*ASSETS*) and sales to *UP* are likely to be a strong institutions phenomenon. No such effects are observed for IPOs coming from weak institutions. In the case of *SALES*, findings show opposite effects on both subgroups with positive (negative) association for firms coming from strong (weak) institutions (significant at 0.10 level). Negative relation between sales and underpricing is a well documented phenomenon in IPOs (Brennan and Franks, 1997) and the difference between the two groups of firms suggests that investors consider firms that are coming from strong legal institutions closer to domestic US firms relative to IPOs from weak legal institutions. Leverage and association with the high-tech industry are significant for strong legal institutions firms but do not show a significant

difference between the two subsamples. Also, *BUBBLE* is significantly positive and different between the two subgroups.

[Insert Table 4 about here]

In Table 5 I repeat the analysis in model 1 separately for the two subsamples and report the differences in the coefficients using interactions of *SOX* with all of the variables (denoted as model (1.b) with the full model specifications presented in the notes of Table 5). As a result, Table 5 is separated by two sections; the first two left hand-side columns show the results for model 1 for pre-SOX and post-SOX respectively while the third column to the left reports the coefficients for the interaction model (1.b). Thus, the reported coefficients are the difference between the coefficients observed in the two periods' subsamples except for *SOX* which is the difference between the intercepts. The *SOX* coefficient is positive but insignificant. This indicates no difference in underpricing as a result of the enactment of SOX. Thus, this evidence rejects the hypothesis of a reduction in underpricing resulting from the assumed better information environment. When looking at the univariate results with relation to SOX, the clear difference in *UP* between the two periods becomes insignificant in the multivariate analysis due to the difference in explanatory variables between the two periods. Consistent with Johnson and Madura (2009), well reputable auditors are constraining underpricing more in the post-SOX period with a significantly negative coefficient on difference. Also, the relation between *HOT* and *UP* is significantly lower though still positive in the post-SOX period. *INSIDER* and *AGE* have a positive and negative effect in the post-SOX period respectively, while *HITECH*, *PROCEEDS*, *ASSETS* and leverage is only significant in the pre-SOX period. Finally, *BUBBLE* is highly significant and positive.

[Insert Table 5 about here]

The overall findings for underpricing are mixed in relation to the hypothesises postulated in this paper. IPOs that coming from strong institutional environments at their home country experience lower underpricing on average to those that come from a lower institutional environment. However, these findings do not support the assumption of a change in underpricing as a result of a suggested improvement in the information environment following SOX. First, both the strong and weak home institution subgroups do not show a change in levels of underpricing as a result of SOX. Second, when splitting the sample to pre- and post- SOX periods, there is no significant difference in the magnitude of intercepts. The next subsection presents additional analyses and sensitivity tests to further strengthen the findings.

5.3. Additional Analysis

In order to augment and possibly enhance our primary findings, a selection additional analysis has been carried out as discussed below.

5.3.1. Investors' Premium

In addition to underpricing, literature on IPO's suggests investors' premium as an alternate measure of initial performance (for example, Certo et al. 2003, Welbourne and Andrews, 1996, Aerts and Cheng, 2012, Lester et al. 2006). The latter captures the excess value that investors place on firm's net assets. The investors' premium measure is most commonly calculated as the IPO offer price per share minus the book value of equity per share after the offering, and the difference is divided by the offer price, or:

Investors' Premium (PREMIUM) = (offer price – book value per share)/offer value

Welbourne and Andrews (1996) argue that the advantage of using this measure as opposed to measures that rely on stock price (as is the case with underpricing), is that it only

regards the value of stock price that is above the book value of the firm. They also claim that the premium measure represents a more robust estimate to the perceived value of the firm as compared to the underpricing alone. The summary statistics of this alternative performance measure are presented in Panel B of Table 2. To test the relation between investors' premium and explanatory variables in question, I run model 1 with *PREMIUM* replacing *UP* separately for the two subsamples and report the differences in the coefficients, using interactions of *INST* with all of the vector variables (denoted as model (2.a) with the full model specifications presented in the notes of Table 6).

The positive and significant coefficient of *INST* in the interactions regression indicated that IPOs from strong home institutions are valued more by the investors. These findings are persistent despite controlling for other factors. Results also show a significant negative relation between *PREMIUM* and *SOX* for IPOs coming from both weak and strong home institutions countries. Furthermore, findings show that both subsamples experience higher investors' valuation when underwriter is of higher prestige with no significant differences between the two. These findings support the view that prestigious underwriters command a higher investor's premium (Aggrawal et al., 2009). The control variables *PROCEEDS* and *LEV* are significantly positive and lower in IPOs coming from countries with weak institutions in comparison with IPOs from strong ones. These results suggest that visibility as expressed by the offer size and the indication of quality by the leverage provider are read positively by investors of IPOs of weak institutions. Firm size (*ASSETS*) is negatively associated with *PREMIUM* in the weak subsample with a positive and significant coefficient of the difference. Hence, larger firms from weak institutions enjoy lesser premium relative to stronger ones. This can be attributed to the perceived potential value of the firm.

In Panel B of Table 6 I repeat the analysis in Panel A of Table 6 separately again for the two subsamples and report the differences in the coefficients using interactions of *SOX*

with all of the vector variables (denoted as model (2.b) with the full model specifications presented in the notes of Table 6). Results show a significant decrease in investors' premium in the post-SOX period. However, there is no significant effect of SOX in relation to the institutional environments at the country of origin and investors' premium. *AUD* is positive in the post-SOX period (significant at 0.10 level) with a significant and positive coefficient of the difference between the two periods. Thus, in line with increased auditor's liability after the introduction of SOX, investors' valuation is positively associated with auditors' prestige in the post-SOX period. *UW* however, is only significant and positive in the pre-SOX period when liabilities of auditors and management were relatively smaller. This contributes to literature which suggests that underwriters with a higher reputation certify the quality of offering to potential investors (for example, Helou and Park, 2001), or alternatively reduce the offer price which in turn increases the premium. (Ritter, 2011). *AGE, PROCEEDS, ASSETS* and *LEV* reports differences magnitudes of association to *PREMIUM* in both periods as expressed by the significant coefficients of differences.

[Insert Table 6 about here]

Lastly, I conducted this test using first day closing price instead of offer price to control for potential underpricing (Aerts and Cheng, 2012). The results from this were not materially different and therefore not reported.

5.3.2. Accounting conservatism and underpricing

In a recent study, Lin and Tian (2012) investigate the relation between accounting conservatism and IPO underpricing. They argue that since information asymmetry theories are regarded as central to explaining underpricing, the recognition criteria of firm's financial reporting should matter. More specifically, they find a negative relation between accounting conservatism and underpricing levels which increases with the degree of information

asymmetry. In the formation of the theoretical framework for a relationship between underpricing and conservatism is primarily based on Basu (1997) and Bushman and Piotroski (2006). They argue that accounting conservatism implies asymmetry in gains and losses recognition where the latter require less verification and thus constrain managers from following opportunistic objectives by overstating earnings and understating losses.

I test for the potential effect of accounting conservatism and underpricing with respect to the country of the origin of the foreign IPOs by introducing the variable *CONSRV* to the main tests. Following Lin and Tian (2012), I use the total accrual-base measure of conservatism which is based on Givoly and Hayn (2000) and is calculated as follows:

$$CONSRV_t = (-1) * (NI_t + DEP_t - CFO_t) / TA_{t-1}$$

where conservatism ($CONSRV_t$) is minus one multiplied by net income before extraordinary items (NI_t) plus depreciation and amortization (DEP_t) minus operating cash flows (CFO_t), all at the end of the fiscal year preceding the IPO date. TA_{t-1} is the lagged total asset.

The univariate analysis presented in Panel B of Table 3 show no significant differences in means and medians between the pre- and post- SOX or the weak and strong legal institutions subsamples. This is contradictory to other studies that find an increase in accrual-base measure of conservatism in post SOX period (Lobo and Zhou, 2006; Cohen et al., 2008). This may be attributable to other factors in the IPOs going to the US and thus should be analysed by allowing for them in a multivariate framework.

The relation between underpricing and accounting conservatism is tested after allowing for the factors in question presented in Panel A of Table 7. I run model 1 (with *UP* being the dependent variable) with the inclusion of *CONSRV* (denoted as model (3.a). The full model specification is presented in the notes of Table 7). I report the differences in the coefficients, using the following methods; (a) interactions of *INST* with all of the vector variables, and (b) interactions of *SOX* with all the vector variables. The results regarding the

differences between IPOs coming from weak and strong legal institutions countries remain significant and negative, indicating lower underpricing in IPOs coming from strong legal institutions at the country of origin. There are also no significant differences in underpricing between the pre- and post- SOX periods. In relation to conservatism, results show a negative and significant relation between conservatism and underpricing for IPOs coming from countries with strong legal institutions with marginal significance on the difference between the weak and the strong subsamples.

In Panel B of Table 7, I repeat the analysis in model 1 with *PREMIUM* replacing *UP* separately again for the two subsamples (denoted as model (3.b) with the full model specification presented in the notes of Table 7). As in the case of underpricing, results show a negative relation between investors' premium and conservatism levels. These indicate that investors price firms that report more conservatively lower than those that are relatively less conservative in their reporting. This is even stronger after SOX.

[Insert Table 7 about here]

5.3.3. Underpricing adjusted to market performance

Since first day performance may be sensitive to market performance on the same day, I use the methodology from Carter et al. (1998) to compute the market-adjusted initial returns (*UP_ADJ*). See Panel B of Table 2 for summary statistics. This procedure results in no material changes in the estimated coefficients and therefore is not reported in the paper.

5.3.4. Three days aftermarket return

Schultz and Zaman (1994) find that the first days of trading of an IPO can be influenced by underwriters in their aim to maximize their income from the offering. As such, it is likely that the first day return do not fully reflect the dynamics of pricing mechanism of

the market. To pre-empt this potential shortcoming, I redefine underpricing as the aftermarket return at the end of the first three trading days (*UP_3*). See Panel B of Table 2 for summary statistics. However, this procedure results in no material changes in the estimated coefficients and therefore is not reported in the paper.

5.3.5. Alternative Indices for Institutional Environment

In search for additional home institutional ranking, I redefine the *INST* variable according to two different indices proposed by Leuz (2010) and Bruner at al. (2004). Leuz (2010) divides a list of 49 countries into three clusters according to their regulatory and institutional differences. For the purpose of this paper when defining the variable *INST_L*, I identify Cluster 1 as Strong (*INST_L*=1) and Clusters 2 and 3 are combined to reflect weak institutional environments (*INST_L*=0). Finally, though China is not present in Leuz (2010), I categorize IPOs coming from China as part of the weak home institutions subgroup. Alternatively, Bruner at al. (2004) uses the Country Risk Rating index as published in Euromoney's annual surveys to score the home institutions of firms going to the US. They assign country scoring based on the year of the first IPO from each country. I use their scoring to calculate the *INST_EU* variable when a country with a score of below or equal to (above) the median is identified as having a weak (strong) institutional environment.

However, using the above mentioned alternative indices to redefine result in no material changes in the estimated coefficients and therefore are not reported in the paper. Furthermore, it is important to note that these indices do not exhibit temporal variations and thus do not reflect changes in regulatory and institutional environments at the country of origin. The relevance of this limitation is that it increases in time and with the sample size.

5.3.6. Domestic US IPOs

To control for general underpricing levels of domestic US IPOs, I introduce the variable *UP_US.* The variable is calculated by matching the average the first day underpricing of all industry-year US IPOs to each of the foreign IPOs in the sample. See Panel B of Table 2 for summary statistics. Results of the main tests do not change in any material way with the inclusion of *UP_US* and are therefore not reported in this paper. However, it is important to indicate that underpricing of domestic IPOs in the US positively affect underpricing of foreign IPOs with weak institutions and to a lesser extent the IPOs from strong legal institutions. The coefficient of the difference is negative and significant. This evidence suggests once again that firms from weak institutional environment at the country of origin leave more money on the table also with relation to domestic US IPOs.

5.3.7. China indicator

IPOs coming from China become dominant in the years following the enactment of SOX and constitute 50.9% of the post-SOX sample. Moreover, previous studies also document high levels of underpricing in IPO listings in China (Mok and Hui, 1998; Kimbro, 2005; and Ritter, 2011). Thus, to control for specific potential effects originating from Chinese IPOs I included an indicator China to model 1 which equals 1 when an IPO is coming from China and 0 otherwise. Once again, this procedure results in no material changes in the estimated coefficients and therefore is not reported in the paper.

5.3.8. Exchange membership

To test for potential stock exchange membership effects, I run model 1 with the inclusion of three indicators: *NYSE, NASDAQ* and *AMEX* when each gets the value 1 if the US market of issuing is New York Stock Exchange, NASDAQ or the American Stock

Exchange, respectively and otherwise the value is set to 0. This procedure results in no material changes in the estimated coefficients and therefore is not reported in the paper.

6. Conclusion

This paper attends to some unresolved questions regarding the impact of institutional changes on information asymmetry in foreign IPOs by studying the adverse selection problem inherent in new foreign issues in the US. Using a unique dataset of foreign IPOs listing on US capital markets in the years 1990-2009, I investigate whether the negative association between underpricing, as a proxy for the adverse selection problem, and the soundness of the information and legal environment had weakened following the enactment of SOX in the special case of foreign firms coming to the US. I further investigate whether the structural changes introduced by SOX have had a different impact on foreign firms coming from weak and strong institutional environments.

This is an important focus since the Sarbanes-Oxley Act of 2002 introduced higher costs for listed firms in the form of new reporting requirements, corporate governance and accounting mechanisms, and information disclosure requisites. All were created with the aim of increasing investors' confidence and eventually decreasing costs of capital for listed companies. Although strongly debated and subsequently contested, these changes were imposed on both domestic and foreign firms listed on US capital markets.

To date, much of the debate regarding the Act has focused on whether it has proven to be effective in reducing the costs of capital and its effects of the competitiveness position of US capital markets. However, to my knowledge, no study has investigated the specific effects of SOX on foreign issuers in terms of asymmetric information problems in the initial offering stage originating from the firm's specific home institutional environment and the effects of the latter on the first day market performance.

I focus on underpricing as a proxy for adverse selection between management and investors. The model predicts that if SOX has been effective in reducing information asymmetry a reduction in underpricing levels should be evident for IPOs in the period following the Act's enactment. Also, when focusing on the strong versus weak institutional environments of the home country for foreign IPOs, there should be no differences in reaction to SOX between the two groups. I also test for the differences in the role of corporate governance mechanisms in IPOs coming from different institutional environments and for a potential change in this role as a result of the enactment of SOX.

The empirical findings are only partly consistent with these theoretical formulations. First, IPOs coming from a strong institutional environment are less underpriced. However, there is no evidence for a change in underpricing in the post- SOX period. In addition, consistent with prior studies suggesting that voluntary governance tools can be used as a substitution for to regulations (Bruno and Claessens, 2010), I find some evidence that IPOs with prestige underwriters underprice less. Furthermore, findings reveal that a public offering with a prestigious auditor is underpriced less in the post-SOX period. I also find that accounting conservatism is negatively associated with underpricing in the case of firms coming from countries with strong home institutions. In addition, I use an alternative measure of initial performance which is commonly used in literature and one that captures the premium that investors' assign to firm value above the net book value. Findings show that IPOs from countries with strong legal institutions benefit from a higher premium from investors. This premium is negatively related to their level of accounting conservatism. I show a decrease in premium in the post-SOX period. Collectively, the results of this study stress the difference between the two sets of groups, namely strong and weak home institutions but are unable to provide conclusive evidence towards the effectiveness of SOX, especially in achieving its primary objective of reducing the cost of capital in foreign IPOs.

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Table 1: Summary Statistics

Panel A: Sample Development

	Number of Firms
All SDC Platinum new US Foreign listings in years 1990-2009	677
Excluding observations:	
For which prospectus not available	196
With offering other than common/ordinary stock	118
For financial services firms and utilities	17
With insufficient financial data necessary for our analyses	16
Final Sample	**320**

Panel B: Sample Selection by Industry		**Pre-SOX**	**Post-SOX**	**Total**
FF1	Consumer Non-Durables	9	2	**11**
FF2	Consumer Durables	5	1	**6**
FF3	Manufacturing	20	4	**24**
FF4	Oil, Gas, and Coal Extraction and Products	3	1	**4**
FF5	Chemicals and Allied Products	5	2	**7**
FF6	Business Equipment	88	43	**131**
FF7	Telephone and Television Transmission	37	9	**46**
FF8	Utilities	-	-	**-**
FF9	Wholesale, Retail, and Some Services	5	3	**8**
FF10	Healthcare, Medical Equipment, and Drugs	14	13	**27**
FF11	Finance	-	-	**-**
FF12	Other	29	27	**56**
Total		**215**	**105**	**320**

Panel C: Country of Origin by Period

Country	1990-1993	1994-1997	1998-2001	2002-2005	2006-2009	Total
Argentina	0	0	2	0	1	**3**
Austria	0	0	1	0	0	**1**
Australia	0	3	0	0	0	**2**
Belgium	0	1	0	0	0	**1**
Brazil	0	1	0	0	0	**1**
Canada	0	8	14	3	4	**29**
Chile	1	2	0	0	0	**3**
China	0	1	5	15	40	**61**
Denmark	1	0	0	0	0	**1**
Finland	0	1	0	0	0	**1**
France	1	6	5	0	0	**11**
Germany	0	3	4	0	0	**7**
Greece	0	0	3	5	5	**13**
Hong-Kong	1	8	4	3	1	**17**
Indonesia	0	1	0	0	0	**1**
India	0	0	2	0	0	**2**
Ireland	0	2	4	0	2	**8**
Israel	3	21	17	5	8	**54**
Italy	1	3	1	1	0	**6**
Japan	0	0	1	0	0	**1**
Jordan	0	1	0	0	0	**1**
Luxemburg	1	0	1	0	0	**2**
Mexico	2	0	0	1	0	**3**
Netherlands	1	13	9	0	2	**24**
New-Zealand	1	3	0	0	0	**4**
Norway	0	0	1	0	0	**1**
Poland	0	2	0	0	0	**2**
Singapore	0	2	2	0	2	**6**
South-Africa	0	0	0	1	0	**1**
South-Korea	0	1	3	3	1	**8**
Spain	0	0	1	0	0	**1**
Sweden	0	3	0	0	0	**3**
Switzerland	0	3	4	1	0	**7**
Taiwan	0	0	1	1	1	**3**
UK	0	18	11	2	0	**31**
Total	**13**	**107**	**96**	**41**	**67**	**320**

Note: The table presents the sample selection process (Panel A), composition by industry (Panel B), and composition by country and period industry (Panel C).

Table 2: Selected Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Panel A: Main Analysis																								
1	***UP***																								
2	***INST***	0.04																							
3	***SOX***	-0.14	-0.37																						
4	***AUD***	-0.04	0.01	0.12																					
5	***UW***	-0.03	0.06	0.09	0.48																				
6	***HOT***	0.28	0.02	-0.04	-0.09	-0.15																			
7	***INSIDER***	0.10	-0.15	0.09	0.00	0.06	-0.04																		
8	***AGE***	-0.12	0.10	-0.16	-0.04	0.07	0.01	-0.13																	
9	***HITECH***	0.10	0.01	-0.03	0.02	0.15	0.02	0.22	-0.24																
10	***PROCEEDS***	0.01	0.10	0.00	0.40	0.59	-0.10	-0.08	0.11	0.07															
11	***ASSETS***	-0.13	0.06	0.00	0.25	0.33	-0.12	-0.02	0.38	-0.11	0.74														
12	***SALES***	-0.07	0.02	-0.04	0.09	0.20	-0.01	-0.05	0.41	-0.06	0.50	0.71													
13	***LEV***	-0.07	0.12	-0.12	0.04	-0.08	0.09	-0.05	0.10	0.00	0.15	0.12	0.11												
14	***BUBBLE***	0.32	0.07	-0.37	0.03	0.08	0.05	0.11	-0.23	0.15	0.07	-0.13	-0.10	-0.04											
	Panel B: Additional Analysis																								
15	***UP_ADJ***	1.00	0.04	-0.14	-0.04	-0.02	0.27	0.10	-0.13	0.11	0.02	-0.13	-0.08	-0.08	0.32										
16	***UP_3***	0.87	-0.02	-0.06	-0.05	-0.04	0.24	0.10	-0.07	0.07	-0.01	-0.07	-0.05	-0.06	0.24	0.87									
17	***INST_L***	0.06	0.21	-0.27	-0.15	-0.23	0.11	0.00	-0.06	0.20	-0.30	-0.32	-0.29	-0.01	0.13	0.06	-0.02								
18	***INST_EU***	-0.01	0.74	-0.40	0.04	0.00	0.01	-0.20	0.21	-0.09	0.21	0.20	0.14	0.16	0.09	-0.01	-0.09	0.18							
19	***CHINA***	-0.01	-0.43	0.62	0.05	0.08	-0.09	0.14	-0.23	-0.04	-0.03	-0.07	-0.02	-0.18	-0.19	-0.01	0.07	-0.49	-0.49						
20	***NYSE***	-0.08	-0.05	0.12	0.17	0.23	-0.09	-0.06	0.32	-0.26	0.52	0.62	0.48	0.06	-0.23	-0.08	-0.02	-0.30	0.00	0.12					
21	***AMEX***	0.04	-0.06	0.07	-0.19	-0.37	0.05	0.04	-0.01	-0.09	-0.29	-0.13	-0.07	0.03	-0.04	0.04	0.12	0.00	0.00	0.07	-0.11				
22	***NASDAQ***	0.06	0.07	-0.14	-0.10	-0.09	0.07	0.05	-0.31	0.29	-0.40	-0.56	-0.44	-0.07	0.24	0.07	-0.02	0.29	0.00	-0.14	-0.94	-0.24			
23	***PREMIUM***	0.19	-0.08	0.13	0.05	0.12	0.03	0.30	-0.33	0.19	-0.08	-0.36	-0.23	-0.10	0.06	0.20	0.11	0.09	-0.17	0.33	-0.21	-0.03	0.22		
24	***CONSRV***	-0.02	0.06	-0.02	0.02	0.07	-0.12	0.04	0.02	-0.06	0.02	-0.07	-0.05	-0.05	0.11	-0.02	-0.02	0.04	0.06	-0.02	-0.03	-0.04	0.04	0.03	
25	***UP_US***	0.36	0.16	-0.42	0.00	0.03	0.11	0.05	-0.24	0.32	0.05	-0.17	-0.09	-0.04	0.83	0.36	0.27	0.20	0.12	-0.21	-0.22	-0.07	0.24	0.03	0.10

Note: Table 2 presents Pearson correlation coefficients for variables used in the main analysis (Panel A) and in the additional analysis (Panel B). Correlations above 0.11 and below -0.11 are significant at the 0.05 level. See the Appendix for variable definitions.

Table 3: Univariate Analysis

Panel A: Descriptive Statistics for Full Sample and Overpricing/Underpricing Subsamples

Variable	Full Sample N=320					Underpricing (*UP*)									
						Underpricing (*UP*>0) N=210					Overpricing (*UP*<0) N=75				
	Mean	**STD**	**Q1**	**Median**	**Q3**	**Mean**	**STD**	**Q1**	**Median**	**Q3**	**Mean**	**STD**	**Q1**	**Median**	**Q3**
Main Analysis															
UP	0.206	0.382	0.000	0.053	0.256	0.338	0.411	0.063	0.187	0.429	-0.070***	0.060	-0.094	-0.056***	-0.021
INST	0.431	0.496	0.000	0.000	1.000	0.414	0.494	0.000	0.000	1.000	0.387	0.490	0.000	0.000	1.000
SOX	0.328	0.470	0.000	0.000	1.000	0.290	0.455	0.000	0.000	1.000	0.493***	0.503	0.000	0.000***	1.000
AUD	0.872	0.335	1.000	1.000	1.000	0.871	0.336	1.000	1.000	1.000	0.893	0.311	1.000	1.000	1.000
UW	7.823	2.123	8.000	9.000	9.000	7.733	2.250	8.000	9.000	9.000	7.967	1.950	8.000	9.000	9.000
HOT	0.022	0.078	-0.025	0.020	0.065	0.030	0.082	-0.018	0.029	0.076	0.006**	0.075	-0.038	0.010**	0.049
INSIDER	0.715	0.156	0.683	0.752	0.801	0.724	0.141	0.686	0.755	0.801	0.693	0.180	0.667	0.750	0.799
AGE	2.341	0.931	1.705	2.197	2.773	2.340	0.927	1.735	2.197	2.773	2.297	0.949	1.609	2.179	2.708
HITECH	0.528	0.500	0.000	1.000	1.000	0.529	0.500	0.000	1.000	1.000	0.493	0.503	0.000	0.000	1.000
PROCEEDS	18.489	1.436	17.746	18.463	19.240	18.500	1.487	17.819	18.490	19.271	18.636	1.462	17.706	18.569	19.521
ASSETS	18.181	2.227	16.728	17.798	19.581	18.126	2.209	16.736	17.656	19.428	18.410	2.417	16.724	17.997	19.728
SALES	17.430	3.613	16.470	17.621	18.911	17.359	3.579	16.469	17.579	18.875	17.629	3.877	16.394	17.422	19.270
LEV	0.336	0.386	0.035	0.222	0.514	0.338	0.389	0.034	0.231	0.519	0.342	0.406	0.059	0.194	0.499
BUBBLE	0.234	0.424	0.000	0.000	0.000	0.243	0.430	0.000	0.000	0.000	0.227	0.421	0.000	0.000	0.000
Additional Analysis															
UP_ADJ	0.206	0.384	-0.010	0.056	0.280	0.339	0.414	0.059	0.186	0.444	-0.068***	0.068	-0.093	-0.054***	-0.025
UP_3	0.194	0.404	-0.009	0.049	0.250	0.324	0.444	0.048	0.155	0.400	-0.076***	0.079	-0.122	-0.054***	-0.013
INST_L	0.494	0.501	0.000	0.000	1.000	0.495	0.501	0.000	0.000	1.000	0.467	0.502	0.000	0.000	1.000
INST_EU	83.968	12.583	72.600	85.600	96.900	83.615	13.091	72.600	85.600	96.900	83.864	11.245	72.600	84.300	96.900
CHINA	0.188	0.391	0.000	0.000	0.000	0.190	0.394	0.000	0.000	0.000	0.200	0.403	0.000	0.000	0.000
NYSE	0.288	0.453	0.000	0.000	1.000	0.286	0.453	0.000	0.000	1.000	0.293	0.458	0.000	0.000	1.000
AMEX	0.031	0.174	0.000	0.000	0.000	0.038	0.192	0.000	0.000	0.000	0.027	0.162	0.000	0.000	0.000
NASDAQ	0.681	0.467	0.000	1.000	1.000	0.676	0.469	0.000	1.000	1.000	0.680	0.470	0.000	1.000	1.000
PREMIUM	0.921	0.054	0.900	0.932	0.950	0.921	0.060	0.909	0.934	0.952	0.927	0.039	0.900	0.929	0.948
CONSRV	-0.111	0.848	-0.299	-0.120	0.044	-0.106	0.912	-0.311	-0.130	0.049	-0.100	0.798	-0.321	-0.108	0.052
UP_US	0.247	0.193	0.103	0.196	0.319	0.261	0.201	0.107	0.210	0.372	0.201*	0.158	0.075	0.164*	0.278

Panel B: Descriptive Statistics for Post/Pre-SOX and Strong/Weak Institutional Environments

Variable	*(1) effects of SOX*										*(2) effects of home institutions (INST)*									
	Pre-SOX N=215					**Post-SOX N=105**					**Weak N=182**					**Strong N=138**				
	Mean	**STD**	**Q1**	**Median**	**Q3**	**Mean**	**STD**	**Q1**	**Median**	**Q3**	**Mean**	**STD**	**Q1**	**Median**	**Q3**	**Mean**	**STD**	**Q1**	**Median**	**Q3**
Main Analysis																				
UP	0.238	0.417	0.000	0.086	0.293	0.139**	0.289	-0.025	0.028**	0.187	0.190	0.360	0.000	0.059	0.250	0.226	0.410	0.000	0.048	0.293
INST	0.553	0.498	0.000	1.000	1.000	0.181***	0.387	0.000	0.000***	0.000	0.000	0.000	0.000	0.000	0.000	1.000***	0.000	1.000	1.000***	1.000
SOX	0.000	0.000	0.000	0.000	0.000	1.000***	0.000	1.000	1.000***	1.000	0.473	0.501	0.000	0.000	1.000	0.138***	0.346	0.000	0.000***	0.000
AUD	0.851	0.357	1.000	1.000	1.000	0.914	0.281	1.000	1.000	1.000	0.863	0.345	1.000	1.000	1.000	0.884	0.321	1.000	1.000	1.000
UW	7.760	2.147	8.000	9.000	9.000	7.952	2.077	8.000	9.000*	9.000	7.682	2.236	8.000	9.000	9.000	8.010	1.956	8.000	9.000	9.000
HOT	0.025	0.090	-0.030	0.019	0.091	0.017	0.047	-0.014	0.021	0.050	0.021	0.078	-0.025	0.020	0.067	0.023	0.080	-0.022	0.020	0.064
INSIDER	0.708	0.161	0.667	0.754	0.803	0.728	0.143	0.693	0.750	0.793	0.730	0.136	0.692	0.756	0.800	0.694**	0.177	0.645	0.743	0.803
AGE	2.451	0.984	1.768	2.234	2.944	2.115***	0.769	1.705	2.079**	2.565	2.262	0.889	1.609	2.197	2.708	2.444*	0.978	1.792	2.268	2.890
HITECH	0.544	0.499	0.000	1.000	1.000	0.495	0.502	0.000	0.000	1.000	0.516	0.501	0.000	1.000	1.000	0.543	0.500	0.000	1.000	1.000
PROCEEDS	18.502	1.528	17.617	18.372	19.418	18.461	1.232	18.069	18.507	19.082	18.349	1.453	17.630	18.324	19.008	18.673**	1.398	17.894	18.592**	19.557
ASSETS	18.149	2.470	16.526	17.548	19.782	18.247	1.629	17.194	17.989	18.928	18.001	2.118	16.683	17.668	19.163	18.418*	2.350	16.769	18.329	20.016
SALES	17.516	3.559	16.087	17.517	19.095	17.254	3.732	16.918	17.733	18.553	17.321	3.574	16.469	17.442	18.707	17.574	3.672	16.471	17.775	19.227
LEV	0.367	0.408	0.049	0.258	0.558	0.271**	0.328	0.021	0.164	0.421	0.306	0.352	0.021	0.195	0.463	0.376	0.424	0.053	0.248	0.567
BUBBLE	0.349	0.478	0.000	0.000	1.000	0.000***	0.000	0.000	0.000***	0.000	0.203	0.404	0.000	0.000	0.000	0.275	0.448	0.000	0.000	1.000
Additional Analysis																				
UP_ADJ	0.239	0.419	0.003	0.084	0.293	0.140**	0.289	-0.028	0.023**	0.192	0.191	0.359	-0.005	0.059	0.263	0.227	0.415	-0.011	0.049	0.293
UP_3	0.209	0.409	0.000	0.063	0.262	0.165	0.394	-0.029	0.023	0.216	0.196	0.426	-0.013	0.043	0.243	0.192	0.376	-0.001	0.053	0.250
INST_L	0.581	0.494	0.000	1.000	1.000	0.314***	0.466	0.000	0.000***	1.000	0.412	0.494	0.000	0.000	1.000	0.601***	0.491	0.000	1.000***	1.000
INST_EU	87.333	12.454	72.600	95.200	96.900	76.97***	9.666	71.500	71.50***	79.600	75.842	10.266	71.500	72.600	79.600	94.88***	4.625	95.200	96.90***	97.100
CHINA	0.028	0.165	0.000	0.000	0.000	0.514***	0.502	0.000	1.000***	1.000	0.330	0.471	0.000	0.000	1.000	0.000***	0.000	0.000	0.000***	0.000
NYSE	0.251	0.435	0.000	0.000	1.000	0.362**	0.483	0.000	0.000**	1.000	0.302	0.460	0.000	0.000	1.000	0.268	0.445	0.000	0.000	1.000
AMEX	0.019	0.135	0.000	0.000	0.000	0.057*	0.233	0.000	0.000*	0.000	0.038	0.193	0.000	0.000	0.000	0.022	0.146	0.000	0.000	0.000
NASDAQ	0.730	0.445	0.000	1.000	1.000	0.581***	0.496	0.000	1.000***	1.000	0.659	0.475	0.000	1.000	1.000	0.710	0.455	0.000	1.000	1.000
PREMIUM	0.927	0.054	0.906	0.934	0.958	0.911**	0.053	0.900	0.929***	0.939	0.916	0.054	0.899	0.928	0.944	0.929**	0.053	0.913	0.938***	0.956
CONSRV	-0.116	0.887	-0.321	-0.127	0.049	-0.101	0.764	-0.281	-0.095	0.041	-0.100	0.792	-0.290	-0.111	0.042	-0.126	0.919	-0.326	-0.126	0.058
UP_US	0.304	0.208	0.118	0.269	0.453	0.131***	0.073	0.066	0.117***	0.208	0.218	0.177	0.088	0.171	0.269	0.284***	0.208	0.107	0.219***	0.441

Note: Table 3 presents descriptive statistics for the full sample as well as for distinguishing between overpricing (*UP>0*) and underpricing (*UP<0*) as shown in Panel A. Panel B reports descriptive statistics for Pre- and Post- SOX and between strong home legal institutions (*INST* = 1) and weak home legal institutions (*INST* = 0). Panel A and B also report the results of tests for the differences in the means and medians (the latter using Wilcoxon rank-test) under the Weak Home Institutions block. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. See the Appendix for variable definitions.

Table 4: Underpricing Analyzed between Strong and Weak Legal Institutions Countries

	Underpricing (*UP*)		
	Strong	**Weak**	**Difference**
INTERCEPT	**-1.416*** **	-0.143	
	(0.001)	(0.805)	
INST			**-1.273** **
			(0.024)
SOX	-0.065	-0.047	-0.018
	(0.308)	(0.190)	(0.826)
AUD	0.033	-0.059	0.091
	(0.681)	(0.388)	(0.358)
UW	-0.031	-0.021	-0.010
	(0.262)	(0.128)	(0.786)
HOT	**1.685*** **	**1.135*** **	0.549
	(0.010)	**(0.000)**	(0.231)
INSIDER	0.138	**0.683** **	-0.546
	(0.595)	**(0.047)**	(0.169)
AGE	**0.076** **	**-0.079** **	**0.155*** **
	(0.024)	**(0.032)**	**(0.004)**
HITECH	**0.059***	-0.009	0.068
	(0.092)	(0.896)	(0.408)
PROCEEDS	**0.153*** **	0.017	**0.136*** **
	(0.000)	(0.611)	**(0.002)**
ASSETS	**-0.051*** **	-0.014	**-0.037***
	(0.000)	(0.343)	**(0.094)**
SALES	**-0.023***	**0.010***	**-0.033** **
	(0.072)	**(0.081)**	**(0.021)**
LEV	**-0.175*** **	-0.060	-0.115
	(0.002)	(0.163)	(0.163)
BUBBLE	**0.255*** **	0.112	**0.142** **
	(0.000)	(0.125)	**(0.044)**
N	138	182	320
Adj R^2	0.233	0.189	0.211

Notes:

1. Table 4 presents results of the regression model of underpricing (*UP*) separately for the strong home institutions subsample (the Strong column) and the weak home institutions subsample (the Weak column). The Difference column reports the difference between the two subsample coefficients using the interactions model described below. I report p-values below the estimated coefficients. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. All regressions control for possible correlation of the residuals within industry clusters using Rogers standard errors (Petersen, 2009). See the Appendix for variable definitions.

2. The regression model encompasses model 1 and extends it to allow for interactions with *INST* is:

$$\begin{aligned} UP_i = {} & \alpha + \beta_1 INST_i + \beta_2 SOX_i + \beta_3 AUD_i + \beta_4 UW_i + \beta_5 HOT_i + \beta_6 INSIDER_i + \beta_7 AGE_i + \beta_8 HITECH_i + \beta_9 SIZE_i + \\ & \beta_{10} ASSETS_i + \beta_{11} SALES_i + \beta_{12} LEV_i + \beta_{13} BUBBLE_i + \gamma_1 INST * SOX_i + \gamma_2 INST * AUD_i + \gamma_3 INST * UW_i + \\ & \gamma_4 INST * HOT_i + \gamma_5 INST * INSIDER_i + \gamma_6 INST * AGE_i + \gamma_7 INST * HITECH_i + \gamma_8 INST * SIZE_i + \\ & \gamma_9 INST * ASSETS_i + \gamma_{10} INST * SALES_i + \gamma_{11} INST * LEV_i + \gamma_{12} INST * BUBBLE_i + \varepsilon_i \end{aligned} \quad (1.a)$$

The "Difference" column reports the value of the of the γ_i, i={1,2,…,12} coefficients, their p-values as well as the adjusted R^2 for this regression.

Table 5: Underpricing Analyzed between Post-SOX and Pre-SOX periods

	Underpricing (*UP*)		
	Post-SOX	**Pre-SOX**	**Difference**
INTERCEPT	0.527	-0.750	
	(0.378)	(0.170)	
SOX			1.276
			(0.108)
INST	0.017	0.038	-0.021
	(0.803)	(0.307)	(0.786)
AUD	**-0.318***	0.059	**-0.377****
	(0.064)	(0.437)	**(0.037)**
UW	-0.029	-0.013	-0.016
	(0.165)	(0.244)	(0.540)
HOT	**0.632****	**1.416*****	**-0.784***
	(0.049)	**(0.005)**	**(0.067)**
INSIDER	**0.490*****	0.195	0.296
	(0.002)	(0.437)	(0.289)
AGE	**-0.042****	0.001	-0.043
	(0.048)	(0.969)	(0.237)
HITECH	0.002	**0.053****	-0.051
	(0.978)	**(0.040)**	(0.554)
PROCEEDS	0.004	**0.083****	-0.078
	(0.935)	**(0.038)**	(0.189)
ASSETS	-0.005	**-0.041*****	0.036
	(0.810)	**(0.001)**	(0.134)
SALES	-0.007	0.001	-0.007
	(0.372)	(0.926)	(0.469)
LEV	-0.096	**-0.131*****	0.035
	(0.198)	**(0.000)**	(0.676)
BUBBLE		**0.181*****	
		(0.000)	
N	105	215	320
Adj R^2	0.248	0.197	0.210

Notes:

1. The table presents results of the regression model of underpricing (*UP*) separately for the pre-SOX subsample (the Pre-SOX column) and the post-SOX subsample (the Post-SOX column). The Difference column reports the difference between the two subsample coefficients using the interactions model described below. I report p-values below the estimated coefficients. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. All regressions control for possible correlation of the residuals within industry clusters using Rogers standard errors (Petersen, 2009). See the Appendix for variable definitions.

2. The model encompasses model 1 and extends it to allow for interactions with SOX:

$$UP_i = \alpha + \beta_1 SOX_i + \beta_2 INST_i + \beta_3 AUD_i + \beta_4 UW_i + \beta_5 HOT_i + \beta_6 INSIDER_i + \beta_7 AGE_i + \beta_8 HITECH_i + \beta_9 SIZE_i + \beta_{10} ASSETS_i + \beta_{11} SALES_i + \beta_{12} LEV_i + \beta_{13} BUBBLE_i + \gamma_1 SOX_i * INST + \gamma_2 SOX_i * AUD_i + \gamma_3 SOX_i * UW_i + \gamma_4 SOX_i * HOT_i + \gamma_5 SOX_i * INSIDER_i + \gamma_6 SOX_i * AGE_i + \gamma_7 SOX_i * HITECH_i + \gamma_8 SOX_i * SIZE_i + \gamma_9 SOX_i * ASSETS_i + \gamma_{10} SOX_i * SALES_i + \gamma_{11} SOX_i * LEV_i + \gamma_{12} SOX_i * BUBBLE_i + \varepsilon_i \quad (1.b)$$

The "Difference" column reports the value of the of the γ_i, i={1,2,…,12} coefficients, their p-values as well as the adjusted R^2 for this regression.

Table 6: Testing for Investors' Premium

Panel A: Underpricing Analyzed between Strong and Weak Legal Institutions Countries

	Investors' premium (*PREMIUM*)		
	Strong	**Weak**	**Difference**
INTERCEPT	**0.708*** **	**0.555*** **	
	(0.000)	**(0.000)**	
INST			**0.152** **
			(0.033)
SOX	**-0.018** **	**-0.015*** **	-0.004
	(0.014)	**(0.002)**	(0.682)
AUD	0.002	0.015	-0.013
	(0.845)	(0.261)	(0.527)
UW	**0.007** **	**0.006*** **	0.001
	(0.011)	**(0.006)**	(0.740)
HOT	0.006	-0.016	0.022
	(0.942)	(0.643)	(0.754)
INSIDER	0.008	-0.026	0.033
	(0.596)	(0.514)	(0.448)
AGE	-0.005	0.002	-0.007
	(0.187)	(0.738)	(0.354)
HITECH	-0.011	-0.002	-0.009
	(0.152)	(0.649)	(0.312)
PROCEEDS	0.011	**0.022*** **	**-0.012** **
	(0.144)	**(0.001)**	**(0.013)**
ASSETS	-0.000	**-0.006** **	**0.005***
	(0.900)	**(0.039)**	**(0.058)**
SALES	0.000	0.001	-0.000
	(0.786)	(0.637)	(0.885)
LEV	-0.025	**0.014** **	**-0.040** **
	(0.139)	**(0.044)**	**(0.024)**
BUBBLE	**-0.020** **	0.000	**-0.020***
	(0.029)	(0.992)	**(0.057)**
N	135	177	312
Adj R^2	0.183	0.517	0.384

Panel B: Underpricing Analyzed between Post-SOX and Pre-SOX periods

	Investors' premium (*PREMIUM*)		
	Post-SOX	**Pre-SOX**	**Difference**
INTERCEPT	**0.395*** **	**0.669*** **	
	(0.003)	**(0.000)**	
SOX			**-0.274***
			(0.062)
INST	0.004	0.002	0.001
	(0.237)	(0.722)	(0.815)
AUD	**0.037***	0.004	**0.033***
	(0.082)	(0.686)	**(0.098)**
UW	0.001	**0.006*** **	-0.005
	(0.618)	**(0.009)**	(0.234)
HOT	-0.013	0.004	-0.017
	(0.779)	(0.949)	(0.792)
INSIDER	-0.031	0.003	-0.034
	(0.330)	(0.874)	(0.462)
AGE	**0.010*** **	-0.004	**0.015*** **
	(0.001)	(0.153)	**(0.004)**
HITECH	-0.002	-0.009*	0.007
	(0.553)	(0.089)	(0.157)
PROCEEDS	**0.034*** **	**0.012** **	**0.022** **
	(0.003)	**(0.030)**	**(0.049)**
ASSETS	**-0.009** **	0.000	**-0.009** **
	(0.019)	(0.945)	**(0.022)**
SALES	0.001	-0.000	0.001
	(0.207)	(0.698)	(0.250)
LEV	0.009*	-0.014	**0.022***
	(0.072)	(0.232)	**(0.080)**
BUBBLE		**-0.011***	
		(0.074)	
N	104	208	312
Adj R^2	0.518	0.225	0.391

Notes:

1. Panel A of Table 7 presents results of the regression model of investors' premium (*PREMIUM*) separately for the strong home institutions subsample (the Strong column) and the weak home institutions subsample (the Weak column). The Difference column reports the difference between the two subsample coefficients using the interactions model described below. I report p-values below the estimated coefficients. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. All regressions control for possible correlation of the residuals within industry clusters using Rogers standard errors (Petersen, 2009). See the Appendix for variable definitions.

2. The regression model encompasses model 1 and extends it to allow for interactions with *INST* is:

$$\begin{aligned} PREMIUM_i = {} & \alpha + \beta_1 INST_i + \beta_2 SOX_i + \beta_3 AUD_i + \beta_4 UW_i + \beta_5 HOT_i + \beta_6 INSIDER_i + \beta_7 AGE_i + \beta_8 HITECH_i + \beta_9 SIZE_i + \\ & \beta_{10} ASSETS_i + \beta_{11} SALES_i + \beta_{12} LEV_i + \beta_{13} BUBBLE_i + \gamma_1 INST * SOX_i + \gamma_2 INST * AUD_i + \gamma_3 INST * UW_i + \\ & \gamma_4 INST * HOT_i + \gamma_5 INST * INSIDER_i + \gamma_6 INST * AGE_i + \gamma_7 INST * HITECH_i + \gamma_8 INST * SIZE_i + \\ & \gamma_9 INST * ASSETS_i + \gamma_{10} INST * SALES_i + \gamma_{11} INST * LEV_i + \gamma_{12} INST * BUBBLE_i + \varepsilon_i \end{aligned} \quad (2.a)$$

The "Difference" column reports the value of the of the γ_i, i={1,2,…,12} coefficients, their p-values as well as the adjusted R^2 for this regression.

3. Panel B of Table 7 presents results of the regression model of investors' premium (*PREMIUM*) separately for the pre-SOX subsample (the Pre-SOX column) and the post-SOX subsample (the Post-SOX column). The Difference column reports the difference between the two subsample coefficients using the interactions model described below. I report p-values below the estimated coefficients. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. All regressions control for possible correlation of the residuals within industry clusters using Rogers standard errors (Petersen, 2009). See the Appendix for variable definitions.

4. The model encompasses model 1 and extends it to allow for interactions with SOX:

$$\begin{aligned} PREMIUM_i = {} & \alpha + \beta_1 SOX_i + \beta_2 INST_i + \beta_3 AUD_i + \beta_4 UW_i + \beta_5 HOT_i + \beta_6 INSIDER_i + \beta_7 AGE_i + \beta_8 HITECH_i + \beta_9 SIZE_i + \\ & \beta_{10} ASSETS_i + \beta_{11} SALES_i + \beta_{12} LEV_i + \beta_{13} BUBBLE_i + \gamma_1 SOX_i * INST + \gamma_2 SOX_i * AUD_i + \gamma_3 SOX_i * UW_i + \\ & \gamma_4 SOX_i * HOT_i + \gamma_5 SOX_i * INSIDER_i + \gamma_6 SOX_i * AGE_i + \gamma_7 SOX_i * HITECH_i + \gamma_8 SOX_i * SIZE_i + \\ & \gamma_9 SOX_i * ASSETS_i + \gamma_{10} SOX_i * SALES_i + \gamma_{11} SOX_i * LEV_i + \gamma_{12} SOX_i * BUBBLE_i + \varepsilon_i \end{aligned} \quad (2.b)$$

The "Difference" column reports the value of the of the γ_i, i={1,2,…,12} coefficients, their p-values as well as the adjusted R^2 for this regression.

Table 7: The Association between Accounting Conservatism (*CONSRV*) and Underpricing (*UP*) and Investors' Premium (*PREMIUM*)

Panel A: Underpricing Analyzed between Strong and Weak Legal Institutions Countries and between Post-SOX and Pre-SOX periods

	Underpricing (*UP*)					
	INST			***SOX***		
	Strong	**Weak**	**Difference**	**Post-SOX**	**Pre-SOX**	**Difference**
INTERCEPT	**-1.565****	-0.289		0.128	-0.865	
	(0.012)	(0.651)		(0.802)	(0.225)	
INST			**-1.276****	0.011	**-0.002****	0.013
			(0.015)	(0.294)	**(0.041)**	(0.189)
SOX	-0.087	**-0.071***	-0.016			0.993
	(0.201)	**(0.090)**	(0.850)			(0.335)
CONSERV	**-0.003****	0.002	-0.005	-0.017	0.026	-0.043
	(0.026)	(0.411)	(0.107)	(0.855)	(0.529)	(0.666)
Controls	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
N	133	174	307	98	209	307
Adj R^2	0.222	0.186	0.203	0.176	0.184	0.187

Panel B: Investors' Premium Analyzed between Strong and Weak Legal Institutions Countries and between Post-SOX and Pre-SOX periods

	Investors' premium (*PREMIUM*)					
	INST			***SOX***		
	Strong	**Weak**	**Difference**	**Post-SOX**	**Pre-SOX**	**Difference**
INTERCEPT	**0.680*****	**0.558*****		**0.409*****	**0.643*****	
	(0.000)	**(0.000)**		**(0.000)**	**(0.000)**	
INST			0.122	0.003	0.001	0.002
			(0.108)	(0.471)	(0.827)	(0.797)
SOX	-0.015	**-0.015*****	-0.001			**-0.234*****
	(0.110)	**(0.007)**	(0.935)			**(0.009)**
CONSRV	**-0.000****	0.001	**-0.001***	**-0.003****	-0.000	**-0.002****
	(0.020)	(0.117)	**(0.067)**	**(0.023)**	(0.313)	**(0.024)**
Controls	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
N	130	170	300	97	203	300
Adj R^2	0.162	0.474	0.342	0.540	0.230	0.336

Notes:

1. The table presents results for estimating equations (3.a) and (3.b) in Panel A and Panel B, respectively. The 'Difference' columns report the difference between the two subsample coefficients using the interactions with the INST and SOX variables. The dependent variables are UP and PREMIUM, as explained in Table 4 and Table 5.

2. Additional coefficients βi, i={4,5,…,14} identified in the table as Controls are not tabulated for parsimonious reasons.

3. The regressions models are:

$$UP_i = \alpha + \beta_1 INST_i + \beta_2 SOX_i + \beta_3 CONSRV_i + \beta_4 AUD_i + \beta_5 UW_i + \beta_6 HOT_i + \beta_7 INSIDER_i + \beta_8 AGE_i + \beta_9 HITECH_i + \beta_{10} SIZE_i + \beta_{11} ASSETS_i + \beta_{12} SALES_i + \beta_{13} LEV_i + \beta_{14} BUBBLE_i + \varepsilon_i \quad (3.a)$$

$$PREMIUM_i = \alpha + \beta_1 INST_i + \beta_2 SOX_i + \beta_3 CONSRV_i + \beta_4 AUD_i + \beta_5 UW_i + \beta_6 HOT_i + \beta_7 INSIDER_i + \beta_8 AGE_i + \beta_9 HITECH_i + \beta_{10} SIZE_i + \beta_{11} ASSETS_i + \beta_{12} SALES_i + \beta_{13} LEV_i + \beta_{14} BUBBLE_i + \varepsilon_i \quad (3.b)$$

4. I report p-values below the estimated coefficients. *,**,*** denote differences that are significant at the 0.10, 0.05 and 0.01 level, respectively. All regressions control for possible correlation of the residuals within industry clusters using Rogers standard errors (Petersen, 2009). See the Appendix for variable definitions.

Appendix: Variable Definitions

Variable	Definition	Source
Panel A: Variables Used in Main Analysis		
UP	The percentage difference between the offer price and closing stock price at the first day of trading	IPO prospectus and CRSP database
INST	An indicator variable that is set equal to 1 if the product of law enforcement index (the International Country Risk Guide – ICRG – Law and Order index) and the revised anti-director index of La Porta et al. (1998) for the home country is above the sample median, 0 otherwise	ICRG website and Spamann (2010)
SOX	An indicator variable that is set equal to 1 if the foreign registrant issues shares in the post-SOX period (2002 onwards).	
AUD	An indicator variable that is set equal to 1 if the auditing firm is a Big-6, Big-5 or Big-4 in 1990-1997, 1998-2001 and 2002 onwards, respectively; 0 otherwise	IPO Prospectus
UW	Underwriters Rank obtained from Jay Ritter's website on 06/05/2011	IPO Prospectus and Jay Ritter's website
HOT	A variable that captures the lagged return on the NASDAQ Composite index in the 30 trading days prior to listing	Bloomberg
INSIDER	The percentage of shares retained in the firm after the offering to total shares outstanding after the offering	IPO Prospectus
AGE	First I calculate Year of IPO minus founding year. Then I take the natural logarithm of (1+Age)	IPO Prospectus
HITECH	An indicator variable that is set equal to 1 if the firm operates in a high-tech industry and 0 otherwise, as defined in Tech America Foundation[4]	SDC Platinum and CRSP
PROCEEDS	Natural logarithm of offer proceeds. The variable is indexed to 2005 value of US dollars	IPO Prospectus
ASSETS	Natural logarithm of assets at the end of the fiscal year preceding the issuing. The variable is indexed to 2005 value of US dollars	IPO Prospectus
SALES	Natural logarithm of sales at the end of fiscal year preceding the IPO. The variable is indexed to 2005 value of US dollars	IPO Prospectus
LEV	The ratio of short and long term debt over total assets	IPO Prospectus
BUBBLE	An indicator variable that is set equal to 1 if the initial public offering took place in the year 1999-2000	

[4] See http://www.techamerica.org/sic-definition. Retrieved on 02/08/2011

Panel B: Variables Used in Additional Analysis		
UP_ADJ	The percentage difference between the offer price and closing stock price at the first day of trading adjusted to market returns	IPO prospectus and CRSP database
UP_3	The percentage difference between the offer price and closing stock price at the third day of trading	IPO prospectus and CRSP database
INST_L	An indicator variable that is set equal to 1 if the county of origin of the IPO is listed in Leuz (2010) in Cluster 1, 0 otherwise	Leuz (2010)
INST_EU	An indicator variable that is set equal to 1 if the Euromoney index ranking as presented in Bruner et al. (2004) for the home country is above the sample median, 0 otherwise	Bruner, Chaplinsky, and Ramchand, 2004
CHINA	An indicator variable that is set equal to 1 if the home country is China, 0 otherwise	IPO Prospectus
NYSE	An indicator variable that is set equal to 1 if the stock market of the issuing is New York Stock Exchange, 0 otherwise	IPO prospectus and CRSP database
AMEX	An indicator variable that is set equal to 1 if the stock market of the issuing is American Stock Exchange, 0 otherwise	IPO prospectus and CRSP database
NASDAQ	An indicator variable that is set equal to 1 if the stock market of the issuing is NASDAQ, 0 otherwise	IPO prospectus and CRSP database
PREMIUM	The IPO offer price per share minus the book value of equity per share after the offering, and the difference is divided by the offer price	IPO prospectus and CRSP database
CONSRV	Minus one multiplied by net income before extraordinary items plus depreciation and amortization minus operating cash flows deflated by total asset at the beginning of the fiscal year. All figures correspond to the fiscal year preceding the IPO date	IPO prospectus